

EXTRUDER DIE ADDITIVE INJECTION NOZZLE

ABSTRACT OF THE DISCLOSURE

An extruder die assembly and method for using same is disclosed which is designed for adaptation to a wide variety of commercial-grade extrusion devices common in the food industry. The extruder die assembly is inserted into an appropriate compartment within an extrusion device such that a first extrudate is directed down a coaxially aligned passageway within the forming section and combined with a fluid additive in the injection section whereupon the resulting food mass is compressed through a converging nozzle bore in the nozzle section to produce an extruded food product. The forming section and injection section are fabricated as a matching set. A novel feature of the invention is an injection nozzle which supplies fluid additives from an exterior pressurized source to a supply port formed in the extruder die assembly. The subject injection nozzle exhibits superior sealing qualities in conjunction with simplicity and flexibility. The minimal affected space required to receive the subject injection nozzle allows a single extruder die assembly to have more than one supply port fashioned therein. Thus, multiple injection nozzles may be used to supply a single extruder die assembly with multiple colors and/or flavors. The injection nozzle of the present invention also exhibits a unique dual seal characteristic, which is particularly effective in conditions involving high temperature. The subject injection nozzle is also highly flexible in that one injection nozzle may be used interchangeably with another (*i.e.*, each injection nozzle is not unique to a particular supply port).